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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,267	04/02/2004	Michael A. Fetcenko	OBC-123.1	1788
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ENERGY CONVERSION DEVICES, INC. 2956 WATERVIEW DRIVE ROCHESTER HILLS, MI 48309				
			EXAMINER MAI, NGOCLAN THI	
			ART UNIT 1742	PAPER NUMBER

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/817,267

Applicant(s)

FETCENKO ET AL.

Examiner

Ngoclan T. Mai

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33, 37-46, and 48-49 is/are rejected.
- 7) ☒ Claim(s) 34-36 and 47 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/11/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 33, 37-46 and 48-49 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 7, 9, 11, 13, 15, 17, 21, 22, and 23 of U.S. Patent No. 6,830,725. Although the conflicting claims are not identical, they are not patentably distinct from each other because the hydrogen storage alloy in the instant claims includes structure the same or similar to that of the applicant, therefore the properties such as "having half-cell capacity of at least 100 mAh/g and a maximum concentration difference of less than 0.25 wt.% absorbed hydrogen" which are material properties would inherently present in the claims of the patent.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 1742

4. Claims 1-7, 12-23, and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Willems et al (U.S. Patent No. 4,487,817).

Willems discloses hydrogen storage alloy having a  $\text{CaCu}_5$  crystal structure and having the formula  $\text{AB}_m\text{C}_n$ , where **A** consists of Mischmetal or of at least one of Y, Ti, Hf, Zr, Ca, Th, La and the remaining rare earth metals, **B** consists of two or more elements selected from the group formed by Ni, Co, Cu, Fe and Mn, **C** consists of at least one element selected from the group consisting of Al, Cr and Si,  $m+n$  is between 4.8 and 5.4, and  $n$  is between 0.05 and 0.6 (col. 2, l. 39-65). Willems particularly teaches the a suitable value of plateau pressure of the electrochemical cell is achieved if A consists of La or of a mixture of La and one or more of a remaining rare earth metals.

While Willems does not specifically teaches the half-cell capacity of the alloy, recited in claims 1, 19-20 and the maximum concentration difference in the amount as recited in claims 1, 16-18, and 28 and the magnetic susceptibility of the alloy as recited in claims 21-23 and 29-30, however since the hydrogen storage alloy taught by Willems has the same crystal structure and the same or similar material, the properties as recited in the instant claims would have inherently possessed by the teachings of the cited reference. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product. In re Spade, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990), In re Best, 195 USPQ 430 and MPEP § 2112.01.

As for claims 3-4, the C which includes Cr and Si reads on the claimed cycle life enhancement elements. The cycle life enhancement elements is between 0.05 to 0.6 atomic percent. Since the amount of the cycle life enhancement elements overlaps that of claims 5-7, such overlapping range renders applicant's alloy prima facie obvious despite difference in non-overlapping areas, see In re Malagari, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974). Furthermore, in view of the overlapping in composition, the composition taught by the prior art

Art Unit: 1742

would be expected to possess the same properties of applicant's claimed alloy. See *In re Best*, 195 USPQ 430.

As for claims 12, Willems teaches the alloy include aluminum as component C.

5. Claims 1-2, 11, 12-23, and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Komori et al. (U.S. Patent No. 5,512,385).

Komori et al disclose hydrogen storage alloy having CACu5 crystal structure and having composition represented by the formula  $MmNi_xM_y$ , where Mm is a mischmetal of mixture of rare earth, M is at least one of Al, Mn, Co, Cu, Fe, Cr, Zr, Ti and V and  $x+y$  is greater than equal to 5.0 and less than and equal to 5.5. Komori particular disclosed the hydrogen storage alloy of the claimed invention in Table 1 where the alloy comprises Ni, Al, Mn, Cu and Co; where Co is not exceeding 9 at.%.

While Komori et al do not specifically teaches the half-cell capacity of the alloy, recited in claims 1, 19-20, the maximum concentration difference in the amount as recited in claims 1 and 16-18 and 28, and the magnetic susceptibility of the alloy as recited in claims 21-23, 28-30, however since the hydrogen storage alloy taught by Komori has the same crystal structure and the same or similar material, the properties as recited in the instant claims would have inherently possessed by the teachings of the cited reference. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product. *In re Spade*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990), *In re Best*, 195 USPQ 430 and MPEP § 2112.01.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter

Art Unit: 1742

sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8-11, 24-27, 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willems.

Willems disclosed the claimed hydrogen storage alloy substantially as claimed. While Willems provides examples in the Table of component B to include Ni and Co or Ni and Cu, Willems does not specifically teach the alloy containing Ni, Co and Cu as recited in claims 8-10, 24 and 31 or alloy containing Ni, Co and Mn as recited 11. Willems, however, teaches component B can include two or more than two elements selected from Ni, Co, Cu, Fe and Mn. The maximum atomic quantity per gram atom of A for **Cu is 3.5** and for Mn is 1.0, col. 2, l. 56-60.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to form hydrogen storage alloy where component B includes any combination of elements as taught by Willems.

As for claim 24 while Willems does not specifically teaches the half-cell capacity of the alloy, as recited in claim 24, 26-27 and the maximum concentration difference in the amount as recited in claim 24, however since the hydrogen storage alloy taught by Willems having the same crystal structure and the same or similar material, the properties as recited in the instant claims would have inherently possessed by the teachings of the cited reference. Therefore, the burden is on the applicant to prove that the product of the prior art does not necessarily or inherently possess characteristics attributed to the claimed product. In re Spade, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990), In re Best, 195 USPQ 430 and MPEP § 2112.01.


Art Unit: 1742

8. Claims 34-36 and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ngoclan T. Mai  
Primary Examiner  
Art Unit 1742

n.m.